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## Abstract

We investigate the causes of the high first day returns of Chinese firms making an initial public offering (IPO) of A-shares from 1991 to 2003 on Shanghai and Shenzhen stock exchanges. Our results show an average underpricing of 175.21 percent. We argue that the IPO underpricing is an interaction of ex-market underpricing and on-market overpricing. The high first day returns of China's IPOs are most likely generated from on-market overpricing. Government intervention, market speculation, special ownership structure, strategy of proceeds maximization and risk concerns are the main drivers of the high first day returns. However, the high first day returns have decreased significantly in recent years. We explained this change by testing the risk composition hypothesis, the realignment of incentives hypothesis and the changing issuer objective hypothesis, which shows that the reduction in risk, senior managerial shares and seasoned offerings mitigate the first day returns.

## Keywords

Initial public offering (IPO), stock markets, China

## Disciplines

Business | Social and Behavioral Sciences

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# Why Are the First Day Returns of China's IPOs So High?

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## ABSTRACT

We investigate the causes of the high first day returns of Chinese firms making an initial public offering (IPO) of A-shares from 1991 to 2003 on Shanghai and Shenzhen stock exchanges. Our results show an average underpricing of 175.21 percent. We argue that the IPO underpricing is an interaction of ex-market underpricing and on-market overpricing. The high first day returns of China's IPOs are most likely generated from on-market overpricing. Government intervention, market speculation, special ownership structure, strategy of proceeds maximization and risk concerns are the main drivers of the high first day returns. However, the high first day returns have decreased significantly in recent years. We explained this change by testing the risk composition hypothesis, the realignment of incentives hypothesis and the changing issuer objective hypothesis, which shows that the reduction in risk, senior managerial shares and seasoned offerings mitigate the first day returns.

## 1. INTRODUCTION

Initial public offerings (IPOs) underpricing is a universal phenomenon on the stock markets. Loughran et al (1994) summarise past findings from 25 countries and report an average underpricing that ranges from 4.2% to 80.3%. IPO underpricing is observed on the new emerging stock market of China. Mok and Hui (1998) indicate that the IPOs of A-shares on Shanghai Stock Exchange are underpriced by an average of 289.20% from 1991 to 1993. Su and Fleisher (1999) document, using a sample of IPOs from 1987 to 1995, an average underpricing of 948.60% for A-shares listed on Shanghai and Shenzhen stock exchanges. Chan et al (2003) report an average underpricing of 178% for a sample of A-shares from 1993 to 1998.

The literature provides various theories to explain why IPO underpricing is an equilibrium occurrence in the market. These include models based on the institutional framework hypothesis (Chalk and Peavy, 1987; Finn and Higham, 1988), the litigation hypothesis (Tinic, 1988); the information asymmetry hypothesis, which includes reputation effects (Titman and Trueman, 1986; Beatty, 1989) and the signalling hypothesis (Welch, 1989; Allen and Faulhaber, 1989); the prospect theory (Loughran and Ritter, 2003) and the winner's curse hypothesis (Rock 1986).

A number of papers emerge to document the IPO overpricing. Purnanandam and Wang et al (1992) find IPO overpricing in a sample of Real Estate Investment Trust. Datta et al (1997) find overpricing in the case of IPOs of investment grade bonds. Cooper et al (2000) and Hand (2000) document the irrational overpricing of the 'Internet' shares. Leite (2004) presents that an IPO may be overpriced in equilibrium to its expected aftermarket price. Purnanandam and Swaminathan (2004) find that IPOs could be both overvalued and underpriced at the same time. Overvalued IPOs could provide high returns than undervalued IPOs on the first trading day.

Mok and Hui (1998) suggest that the uncertainties introduced by high equity retention of stated-owned non-tradeable shares and the time elapse between the IPO date and the listing date are reasons for the high underpricing of IPOs in China. In Su and Fleisher (1999), information asymmetry, seasoned equity offerings and bribing bureaucrats are primarily inducement of IPO underpricing. Chan et al (2003) find that the degree of IPO underpricing in China is positively related to the time elapse and the number of investors. It is however negatively related to the number of shares in the issue. Datar and Mao (1998) explain the high first day returns as government awards to stock market participation in the process of privatization. Based on the above studies, we make the following observations. The first day returns of China's IPOs are too large to be simply explained by the issuers initiatively underpricing their IPO shares before listing. The variation of the first day returns from period to period indicates the changes of the China's IPO market.

Thus, this paper at least makes three contributions to the existing literature of China's IPOs. First, we investigate the formation of IPO underpricing. We argue that the IPO underpricing consists of ex-market underpricing and on-market overpricing. The main component of the high first day returns of China's IPOs are most likely generated from on-market overpricing. Second, we apply a relatively richer sample for the period from 1991 to 2003 to examine underpricing from more comprehensive point of view. We find the

significant effect on the first day returns from market speculation, special ownership structure and strategy of proceeds maximization. Finally, we apply a sub-sample from 1997 to 2003 and to test the risk composition hypothesis, changing issuer objective hypothesis and the realignment of incentives hypothesis (Loughran and Ritter, 2003). We find that the reduction in risk, senior managerial shares and seasoned offerings are the major causes of the decreasing in the first day returns.

The remainder of the paper is as follow: Section 2 sets the institutional background of China's stock market, in particular the IPO market. Section 3 illustrates the data and basic statistics of the variables. Section 4 discusses the ex-market underpricing and on-market overpricing. Section 5 investigates the further reasons of high first day returns by considering the whole sample period. Section 6 detects the changes of the first day returns. Section 7 summaries this paper.

## **2. CHINA'S STOCK MARKET AND THE FEATURES OF CHINA'S IPOs**

A formal stock market emerged in China with the establishment of Shanghai Stock Exchange in December 1990 and Shenzhen Stock Exchange in April 1991. In the first year of the market operation, there were only 14 A-share listed. A-shares are designed for Chinese citizen trading with Chinese currency. In 1992, in order to attract foreign investment, a few companies are allowed to issue B-shares designed for foreign investor trading in Hong Kong yuan on Shenzhen Stock Exchange and in U.S. dollar on Shanghai Stock Exchange. The B-shares market was opened to Chinese citizens in 2001. China's stock market has been growing rapidly. In the 13 years until 2003, a total 1262 A-shares<sup>1</sup> and 110 B-shares were circulated in China's stock market with a capitalization of 4245.8 billion Chinese yuans<sup>2</sup>.

The shares of the listed companies are characterized with a complex ownership structure. State-owned shares are the shares converted from state-owned assets. Legal person shares are converted from the assets of institutions or enterprises that joined the shareholding companies prelisting. As most of these institutions and enterprises are still state-owned, the legal person shares have the state-owned nature. Employees' shares are the shares issued to the staff with only subscription priority. Employees' shares issued after 1991 are required to have a three-year waiting time before they turn to be public shares. However, issuance of employees' shares was abolished in November 1998. Public shares are the shares sold to the public investors, which are the solely tradeable shares in the market. The remaining shares called 'other shares' include the shares temporarily stop of trading, rights and bonus before listing. The state-owned shares, legal person shares, employees' shares, Public shares and the other shares account for 47.39%, 16.62%, 0.17%, 35.27% and 0.54% of the market capitalization respectively in 2003.

China's IPOs started before the establishment of the market. In 1984, China opened up share-ownership in state-owned enterprises to the public with the aim raising capital and introducing monitoring mechanism. The shares were issued as private placements and have an offer price set at their face values, which ranges from 20 to 200 yuans. The offering methods were mostly self-issuance, without the participation of underwriters and only a few intermediaries involved. The shares were partly sold to employees and partly to local public. The remaining presented as gifts to the relevant officers.

Among the companies issued shares before the establishment of market, only 90 of them were recognized by the State System Reform Commission as having met listing requirement. The first block of 14 companies listed on the market were selected from share-ownership enterprises according to high quality of financial position and good track of allocating dividends. Hence, IPO shares become desirable in terms of the substantial dividend and liquidity. Due to the small number IPO shares and the advocate of privatization in the economic reform, secondary market is hot. In turn, the capital gains of IPO shares in the first trading day reached to unbelievable high.

From 1990 to 1992, Shanghai and Shenzhen markets applied different criteria in assessing the IPOs. The State Planning Commission in conjunction with the People's Bank of China determined the annual quota for the new shares issued. The subscriptions and payments were only processed by the agencies in the cities of the provinces that the IPO firms located. The investors of the IPOs in other provinces had to have a tour for the purchasing. Fixed offer price and selling limited subscription forms were initially adapted in the allocation of IPOs. Selling unlimited subscription forms were widely used later on, due the high demand and scandals of retail agencies privately holding the limited subscription forms.

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<sup>1</sup>There 1278 A-shares have ever listed and 16 of them were delisted. Thus, 1262 A-shares were circulated by the end of 2003.

<sup>2</sup>Using the 2003 exchange rate of 1 U.S. dollar to 8.27 yuans, this is equivalent to 513.40 billion U.S. dollars.

In 1993, China Securities Regulatory Commission (CSRC), a new authorized regulator of stock market, promulgated several provisions regarding information disclosure, shares offering, clearing, transferring, payment and depositing in regard to share offerings. CSRC determined the annual quota of the issues and IPO prices by employing a relatively fixed price nearing (P/E) ratio. The subscription and payment were accepted by the agencies in major cities of every province in line with IPO allocation nationally. Two subscription methods were implemented. The first is the sale of unlimited subscription forms and granting subscription by lot drawing. The second, which is based the first method, require the investors depositing funds in proportion to their subscription into a special banking account.

On December 29, 1993, Company Law was promulgated, effectively on 1 July 1994. This law regulated the offering and transfer of shares in a relatively systematic and complete manner. From 1994 to 1995, various stock offering methods were experienced, including (a) offering by competitive bidding with a set base price, (b) combination of special deposits and subscription by lot drawing, (c) subscription with special deposits, (d) prepayment in full with proportional subscription according to lot drawing, and (e) prepayment in full with online offering. The balance of the full prepayment after the granted subscription paid would be either refunded immediately or deposited to another account. The determination of IPO prices was reformed by allowing the issuer and leading underwriter, based on the P/E ratio, setting an issuing price within the state stipulated price range, i.e., IPO price = after-tax profit per share  $\times$  issuing P/E ratio. The after-tax profit per share is the average of the real after-tax profit of prior year and the forecast after-tax profit of current year.

In 1999, strategic investor and placement of the secondary market were introduced into stock offerings. The strategic investors are legal persons that have close business link with issuing company and intend to hold the shares for a long period. In 2000, CSRC made a trial that a proportion of shares in the IPOs issued to the existing secondary market investors who were voluntarily subscribed the new shares. The subscription was granted in terms of the market value of the floating shares they held. The other trial is state-owned shares reducing, which was proposed to market state-owned shares. State-owned share reducing is not IPO, but it has IPO nature as it is actually the first time to be put on the market.

Nevertheless, since 2001, the authority promulgated a series of policies and measures in an effort to promote a more market-oriented and internationalized IPO system. Recent IPOs have evolved mainly to be offline legal person placement and online individual subscription (including fund companies), by using the offline soliciting price form institutional investors and online offering at a set price, or online and offline offering by competitive bidding (auction). Also, CSRC started a trial for IPO ratification from examination and approval system to verification system.

### 3. THE DATA

Our data are mainly retrieved from China Stock Initial Public Offerings Research Database (CSIPOR). The data scope contains 1177 A-shares IPOs that have been ever listed on Shanghai and Shenzhen stock exchanges from 1991 to 2003. Among them, a number of shares have incomplete information due to data missing, error records and the change of information disclosure requirement. We have made imponderable corrections and supplementaries by using several data source<sup>3</sup>.

To measure the IPO underpricing on the listing date, we adapt the calculation in the database, which use the methodology suggested by Aggrawal et al (1993). Return of an individual share on the listing day is:

$$IPRN_{i,1} = (P_{i,1} / P_{i,0}) - 1$$

where  $P_{i,1}$  is the closing price of share  $i$  on the listing day and  $P_{i,0}$  is the offer price of shares  $i$ . Market return on the listing day of an IPO share is:

$$MIPRN_{m,1} = (P_{m,1} / P_{m,0}) - 1$$

where  $P_{m,1}$  is the composite index of either Shanghai or Shenzhen stock exchange on the listing day of an IPO share on the relevant market, and  $P_{m,0}$  is the composite index on the offering day of an IPO share on the relevant market as well. Market adjusted return on an individual stock on the listing day is:

$$IPRNAJ_{i,1} = [(1 + IPRN_{i,1}) / (1 + MIPRN_{m,1})] - 1$$

<sup>3</sup> Shanghai Stock Exchange Fact Book 1995 to 2003, Shanghai Stock Exchange, <http://www.sse.com.cn>; Shenzhen Stock Exchange Fact Book 1994 to 2003; Shenzhen Stock Exchange, <http://www.sse.org.cn>; China Securities Regulatory Commission statistical data, <http://www.csrc.gov.cn>.

To measure the IPO performance against the market after listing date, the market adjusted return is calculated as Ritter's (1991):

$$mar_{i,t} = IPRN_{i,t} - MIPRN_{m,t}$$

$t$  is the month that is defined as successive 21 trading days. The monthly returns are calculated using the similar method of daily return except for an interval of 21 days. The average cumulative return of  $n$  stocks is:

$$MAR_t = (1/n) \sum_{i=1}^n mar_{it}$$

Thus, the cumulative market adjusted return from month 1 after listing to month  $s$  is:

$$CMAR_{1,s} = \sum_{t=1}^s MAR_t$$

The time elapse, in other word, gap between IPO date and listing date is:

$$GAP_i = LISTDT_i - IPODT_i$$

$LISTDT_i$  is listing date and  $IPODT_i$  is IPO date of share  $i$  respectively.

Table-1 provides the basic statistics of the first day IPO returns, market adjust returns and the time elapse between IPO date and listing date. The apparent impression of this table is that the first returns are extremely higher than those in other markets of the world. The simple average IPO first day returns of 25 markets in Loughran et al (1994) is 25.78%. The time elapse is also incompatible to those of other markets. In particular for IPO shares offered before the establishment of stock exchanges in 1991, the first day returns and time elapses are surprisingly large. Hua Qiao Tou Zi, a listing company, initially offered shares in 1984 at its par value of one yuan per share and the shares were listed in 1996 having first day closing price of 16.4 yuan. The first day return and gap between offering and listing are 1540% and 4666 days. Wu Han Zhong Shang offered IPO shares in 1990 at the par of one yuan and the shares were listed in 1997 having a closing price of 44.8 yuan. The first return is 4380% and time elapse is 2672 days.

Table-1. The first day return, market adjusted return and time elapse (Gap) by IPO years

Year	IPRN (%)					IPRNAJ (%)	Gap (days)
	Obs.	Mean	Std. dev	Min.	Max.	Mean	Mean
Pre 1991	101	1245.81	876.10	-8.50	4380.00	---	2538
1991	17	932.12	776.63	44.00	2650.00	248.25	413
1992	88	511.07	418.92	0.6970	1915.00	470.85	467
1993	126	202.65	252.28	10.99	2229.00	232.79	156
1994	39	82.12	65.95	-10.00	249.75	84.80	75
1995	12	77.89	96.78	-18.58	312.44	81.42	48
1996	172	115.36	70.73	-6.17	357.61	104.13	21
1997	188	147.65	77.38	5.47	469.09	148.25	24
1998	102	131.64	108.98	2.08	830.21	134.59	54
1999	93	116.05	74.32	7.14	341.87	109.41	57
2000	140	153.63	86.27	0.28	476.77	148.41	28
2001	66	137.80	90.95	0.74	413.79	141.20	28
2002	70	124.34	78.48	11.33	428.25	125.49	16
2003	64	71.95	44.04	10.73	227.99	72.12	16
1991 - 2003	1177	175.21	228.60	-18.58	2650.00	163.51	83
Total	1278	259.82	437.85	-18.58	4380.00	---	277

IPRN represents return on listing day, IPRNAJ represents market adjusted return on listing day and Gap is the days between IPO date and listing date.

There was not an official rule for offering shares and the data are not recorded according to a unified standard before the establishment of stock market. To avoid the biased estimations and observation outliers, we restrict sample horizon within 1991 to 2003. The unadjusted and adjusted first day returns differ not much, except for 1991 when the market indexes are composed with seven shares on Shanghai Stock Exchange and six shares on Shenzhen Stock Exchange. The indexes with small number of shares can not adjust the return unbiased. We prefer using unadjusted returns. Table-2 describes the basic statistics for variables in the regression analyses. For the dummy variables, we have not provided the statistical values due to the suspicion

of accuracy. For example, the issuers are always reluctant to report their shares. We know that the firms have allocated senior managerial shares, but we do not know the accurate number of shares. This is a reason that we apply dummy variables. However, there will be supplementary information in Tabke-8, where we study the changed first day returns of China's IPOs.

Table-2. The basic statistics (1991 – 2003) for the variables in regression models

Variables and description	Obs.	Mean	Median	Std. dev.	Min.	Max
IPRN: first day return (%)	1177	175.21	123.98	228.60	-18.58	2650.00
GAP: time elapse (days)	1177	83.27	27.00	225.55	7.00	3081.00
IPRC: IPO offer price (Yuan)*	1177	6.12	6.00	9.42	1.00	92.8
PER: IPO (offer) price earning ratio (times)	986	16.80	15.00	5.58	5.56	71.45
TOHR: top three shareholding ratio (%)	1084	59.23	61.25	15.47	4.5	89.35
NSHOF: no. of shares offered (million shares)	1177	69.83	40.00	205.76	0.60	5000.00
TNOR: turnover ratio (%)	1177	56.10	56.16	46.99	0.01	935.48
FSIZE: IPO firm size (million shares)	1177	363.53	132.85	2671.99	0.07	86702.43
PROCR: net proceeds per share (Yuan)*	1177	5.92	5.66	9.02	0.92	84.00
STLGR: ratio of state and legal person shares to total shares (%)	1177	58.06	61.33	16.07	28.57	96.42
STDCP: coefficient of variation of the first day prices (%)	1177	19.96	11.93	31.84	1.75	407.95
SMGD: dummy variable for the firms allocated senior managerial shares	1177	-	-	-	-	-
EMPD: dummy variable for the firms allocated employees' shares	1177	-	-	-	-	-
SEOD: dummy variable for firms carried out seasoned offers within three years after listing	1177	-	-	-	-	-
UNWTD: top of ten priority underwriter dummy variable	1177	-	-	-	-	-

The data in the table are average values of either per IPO or per share in the specific period. Some statistics related to dummy variables are reported in Table-6.

\*value weighted mean across the shares.

#### 4. A CLARIFICATION OF CHINA'S IPOs UNDERPRICING

##### 4.1. Are China's IPOs ex-market underpriced or on-market overpriced?

What is IPO underpricing? There several definitions can be cited from the published references. First, 'issuing securities at an offer price set below true value of the security' (Brealey et al, 2001, pp. 398), in other word, the offer price of the IPO shares is significantly below its intrinsic value. Second, the IPO 'shares sold at a price below their current market price' (Gitman et al, 2002, pp. 401), which means that the market closing price of the IPO shares on listing date is higher than the offer price. Third, 'a large positive gain to a new issue (relative to its offer price) immediately after listing' (Chan et al, 2003, pp. 2) is significantly larger than the average returns of the other days. If the market prices can properly reflect the relevant intrinsic values, the three definitions are consistent. Because, the first day returns can only be generated from underpricing the IPO offer price before listing. We call this as ex-market underpricing. The left hand side of Figure-1 interprets the first day returns by ex-market underpricing.

If an IPO offer price is set at its intrinsic value, the first day returns can only be generated from overpricing IPO on the listing date. We call this as IPO on-market overpricing. The right hand side of Figure-1 illustrates the first day returns generated by on-market overpricing. The first definition of IPO underpricing is explicitly in the category of ex-market underpricing. The second and third are ambiguous as they do not assume neither the offer price nor the market price is intrinsic value of the IPOs. Actually, an IPO underpricing represents either ex-market underpricing or on-market overpricing, or a combination of both. Thus, the second and third definitions are more generally accepted.

We suppose that the high first day returns of China's IPOs are generated for both ex-market underpricing and on-market overpricing, but most likely from on-market overpricing. First, the IPO pricing methods are uniformly formulised by the market regulator. Except for the regulator's strategy of underpricing if the regulator intends, there is little space for individual firm making a further underpricing. Second, the first day

returns are too large to attribute to the regulator's intention of underpricing. We understand the trustable evidence of our argument is to find out the intrinsic value of IPOs.

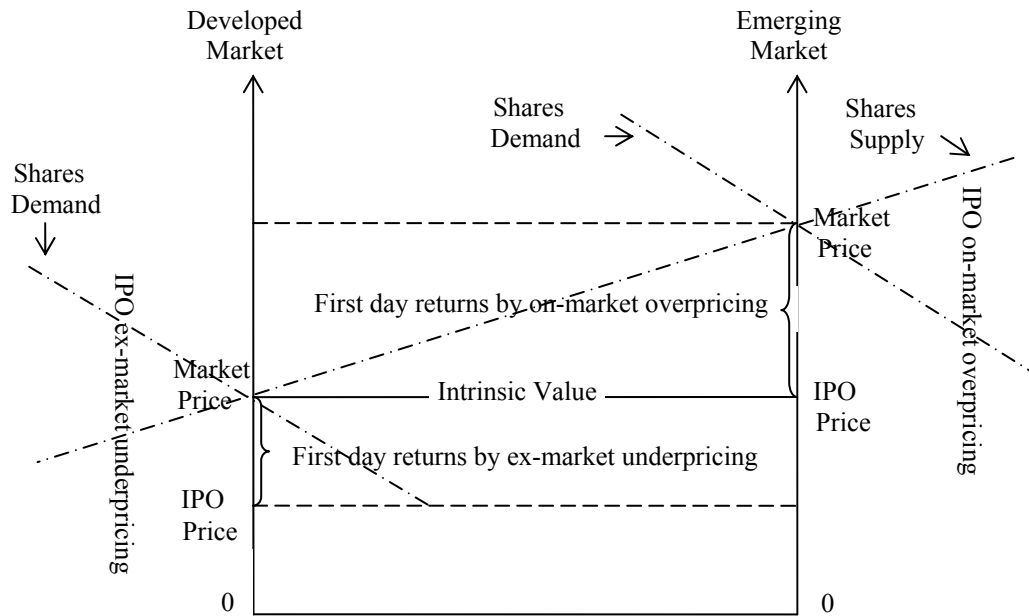


Figure-1. The high first day returns of China's IPO is most likely generated by on-market overpricing

Discounted cash flow approach and comparable firms approach are frequently discussed in the literature regarding evaluation of IPO shares. However, the firms conducting initial public offerings in China are young companies that are just reformed into share-ownership. The discounted cash flow approach is very imprecise as it is difficult to forecast future case flows of the young companies (Kim and Ritter, 1999). We also suspect the validity of comparable firms approach. Since on the new emerging China's stock market, a matched firm is usually an IPO firm short time before the evaluated IPO firm. Using benchmark and factor returns that themselves contain a large number of IPO firms reduces the power of measure (Loughran and Ritter, 1999).

An alternative way to distinguish ex-market underpricing and on-market overpricing is to investigate the IPO long-run performance. If an IPO is overvalued, the prices of IPOs are expected to underperform the benchmark portfolio or the market in the long run. Loughran and Ritter (1995) document that the three-year wealth relative for U.S. IPOs is 0.80 when IPO firms are matched with non-IPO firms by size. Chan et al (2003) investigate China's IPO of A-shares by selecting the matched firms that have been listed at least two years. They show that wealth relatives matched by size, B/M, and the size-and-B/M are 0.92, 0.98 and 0.90 respectively. To avoid the repeat work, we calculate the market adjusted cumulative returns of IPOs after listing to measure the long-run performance. The first market adjusted cumulative return time series is calculated for all IPOs after 1991 when market established. The second is for the IPOs after 1997, which shows the change of the IPO aftermarket performance in different periods. The results are arranged in Table-3.

The results illustrate that in the traditional long-run of three-years after listing (Ritter, 1991), except for the first 3 to 6 months, the China's IPOs have not underperformed the market. However, in a much longer period, the IPOs indeed underperform the market remarkably. For the total IPOs from 1991 to 2003, the average market adjusted cumulative returns after listing turn to be negative from month 99 (about 8.25 years). For the IPOs from 1997 to 2003, the average market adjusted cumulative returns become negative from month 42 (about 3.5 years). We find that the on-market overpricing not only incurs on the listing date, but also incurs or maintains for a period after listing. This can be observed that market adjusted cumulative returns are '∩' shapes before they decrease to be negative. The IPOs after 1997 underperform the market from month 42 after listing, earlier than month 99 for the total IPOs. Table-6 shows that the mean first day return is 132.63 for the IPOs after 1997, less than 175.21 for total IPOs. Thus, the IPOs before 1997 usually have high and long time on-market overpricing and the IPOs after 1997 usually have relative low and short time on-market



overpricing. Purnanandam and Swaminthan (2004) indicate that overvalued IPOs can be continuous to get even more overvalued in the aftermarket. Because of investor optimism or the market trusts that the IPOs are worth more and bids them up to the high market price.

Table-3. Cumulative market adjusted returns of IPOs after listing (excluding the first day returns)

IPOs from 1991 to 2003						IPOs from 1997 to 2003		
Months	N	CMAR	Months	N	CMAR	Months	N	CMAR
3	1177	-0.0061	90	395	0.0573	3	723	-0.0060
6	1167	0.0080	93	341	0.0214	6	713	-0.0079
9	1142	0.0255	96	297	0.0036	9	688	0.0103
12	1127	0.0366	99	282	-0.0067	12	674	0.0061
15	1113	0.0547	102	280	-0.0085	15	659	0.0203
18	1098	0.0805	105	278	-0.0105	18	644	0.0478
21	1072	0.0958	108	277	-0.0219	21	618	0.0584
24	1053	0.1114	111	270	-0.0222	24	599	0.0604
27	1043	0.1243	114	269	-0.0356	27	589	0.0576
30	1032	0.1247	117	266	-0.0547	30	578	0.0440
33	1018	0.1346	120	247	-0.0886	33	564	0.0473
36	1003	0.1147	123	231	-0.1277	36	549	0.0155
39	977	0.1058	126	150	-0.1417	39	523	0.0018
42	924	0.0998	129	119	-0.2380	42	470	-0.0065
45	887	0.0954	132	113	-0.2732	45	433	-0.0074
48	847	0.0963	135	105	-0.3256	48	393	-0.0106
51	837	0.0972	138	94	-0.3599	51	383	-0.0182
54	828	0.1128	141	78	-0.4146	54	374	-0.0113
57	784	0.1129	144	30	-0.3759	57	330	-0.0297
60	760	0.1184	147	17	-0.3651	60	306	-0.0336
63	744	0.1160	150	10	-0.5528	63	290	-0.0503
66	721	0.1303	153	10	-0.5356	66	267	-0.0575
69	706	0.1375	156	10	-0.5465	69	252	-0.0541
72	658	0.1309				72	204	-0.0777
75	642	0.1253				75	188	-0.1009
78	620	0.1023				78	166	-0.1660
81	591	0.0981				81	137	-0.1910
84	489	0.0910				84	137	-0.1956
87	454	0.0787				87	137	-0.2580

There are two time series in the table. The first is for the IPOs from 1991 to 2003 and the second is for the IPOs from 1997 to 2003. CMAR is the average cumulative market adjusted returns of IPOs from listing to month t. The last month of each time series is October 2004. Positive CMAR represents the IPOs overperforming the market on average, while negative CMAR represents the IPOs underperforming the market.

#### 4.2 Why the China's IPOs are on-market overpriced?

In a developed country, stock market is well regulated. There is little possibility to manipulate IPO prices on the market. To improve aftermarket performance of IPO shares may be mostly achieved by ex-market underpricing. In China's stock market, due to government intervention in determining IPO offer price, there are rare space for ex-market underpricing. In addition, the market is not well regulated and market manipulation is prevalent. The on-market overpricing is an essential way to improve aftermarket performance. The main practitioners involved in IPO on-market overpricing in China are the issuers, underwriters, institutional investors.

The issuers expect good aftermarket performance of their IPO shares. One of objectives is to signal the value of the shares in that they will be able to undertake seasoned equity offerings to obtain more funds (Welch, 1989). The rigorous regulated formularization of IPO offer prices allows the issuers having less flexibility to use ex-market underpricing strategy. Thus, the issuers usually concern more manipulation of on-market prices rather than IPO offer prices. There are several tactics for the issuers to stimulate their IPO on-market prices. First, an issuer publishes an IPO prospect with exciting profitability of the financed projects.

Chen and Firth (1999) find that almost half of earning forecasts in China's IPO prospects have negative errors, twice as Hong Kong markets. Second, the issuer hires an investment consultant agency to compose and publish an analysis report that used to exaggerate the IPO share value. Third, the issuer and underwriter negotiate a set of intrigues to stimulate the on-market price, which includes the underwriters purchasing the IPO shares from the market on the listing date.

The underwriters always want to build a good relationship with both issuers and investors of IPO shares. In a mature market, IPOs are ex-market underpriced. High offer prices make issuers happy with more proceeds, but make investor unhappy with less initial returns and bad aftermarket performance of the new issue. Low offer prices decrease the proceeds of issuers and commissions of the underwriters, but make investors happy and good aftermarket performance. In the emerging market of China, IPOs are on-market overpriced. The underwriter can make both issuers and investors happy simultaneously, without losing their commission. On one side, the underwriters show the issuers that their underwriting can bring rich proceeds. On the other side, the underwriters show the investors that the IPO shares they underwrote can bring high initial returns. The underwriters improve the on-market prices of IPOs by the following ways. First, underwriters help the issuers to restructure the assets, in particular, displayed on the IPO prospect. Second, the underwriters provides a package of service consisting of IPOs, SEOs, new rights issues and release favourable news for boosting on-market prices. The underwriters in China are securities companies and trust and investment companies. These companies have underwriting, share trading and brokerage licences. They frequently bid up the prices of IPO shares on listing date and get profit not only from underwriting, but also from trading and broking.

In addition to the securities and trust and investment companies, mature funds and stock brokerage houses are the other institutional investors. The institutional investors pose advantages in usable funds, accessibility of inside information and professional analysts. The average cost of subscribing IPO shares is quite lower for institutional investors than small individual investors. In reality, the institutional investors are important player of China's IPO market. To obtain high returns from IPO shares is inherent desirability of institutional investors. Specifically, the institutional investors that have underwriting and brokerage licences can do one shooting at three targets, i.e., by bidding up IPO on-market prices, they get high first day returns, flag underwriting quality and get more broking commissions.

The small individual investors are uninformed and the average cost of purchasing IPO shares is high compared with that of institutional investors. We can imagine that China implements prepayment in full or bank deposit related subscription methods. According to the average effective subscription rate of 6.68% in most of years, buying IPO shares worth of 6680 yuans needs 100,000 yuans money that is normally half a lifetime saving of a small investor. An individual investor can only afford buying a small number of IPO shares with the fixed transaction fees the same as a block purchasing, as the fixed transaction fees are counted on trading times. Winner's Curse hypothesis (Rock, 1986) states that when uninformed investors feel danger of losing money, they would adjust their bid down correspondingly. Thus, the IPO shares should be underpriced to attract the uninformed investor. However, as we indicated that ex-market underpricing is unlikely applicable and not necessary. Oppositely, to lead uninformed investors to trust profitable IPO shares, the informed investors overprice on-market IPO shares. The more the on-market IPO shares overpriced, the strong the signal of profitability of investing in IPO shares. The institutional investors act as speculators. Goldstein and Guembel (2002) indicate that speculators may be able to trade profitably even if they have no any private information, because they are able to affect beliefs and real asset values. Because the small investors cannot afford more on subscribing IPO shares due to high proportion deposits required, they have mostly been drawn on the secondary market on the IPO shares listing date.

#### **4.3 How the China's IPO shares are on-market overpriced?**

We have known that institutional investors including issuers, underwriters, securities companies and stock brokerage houses are core players of IPOs. They usually adopt three steps to stimulate the IPO share on-market prices on the listing date. First, they buy IPO shares as more as possible before the shares listing. To get the expected subscription, they use their own trading funds, customers account reserves, short term debts. Peculation of customers account reserves and specified short term debts breach the stock market regulation. However the lenient supervision allows the prevalence of violation.

Second, several institutional investors collude to syndicate on-market IPO prices of a firm, in order to get high opening price and then push the prices up on the listing date. Simplifying process, the institution A bids the IPO share at  $x$  price and institution B asks the same IPO shares at  $y$  price that is slightly low but closes to bid price. The number of shares in the bid and ask orders are relative large and the bid and ask orders are submitted at the same time. According to price, quantity and time priority trading rules, the transaction of

these bids and asks are always achieved. Simultaneously, the transaction with bid and ask prices and quantities showed, through electronic trading system, on the trading screens in every brokerage trading ground, which release a signal of high demand of IPO shares. Institutions A and B frequently change positions and continually send orders. The on-market prices of IPO shares are lifted up and up. During this process, many small investors are lured in the market. This strategy also can be preformed by an institution using A and B two trading accounts. Actually, each of institutional investors holds a number of accounts that opened pretending personal identifications. Trading in different accounts avoids declaring excess holding shares.

The extent of ex-market underpricing is limited by either expected recoupment from market (such as SEOs) or the profitability from the financed project. The on-market overpricing is almost unlimited in a hot issue, not well regulated or serious unbalance of supply and demand market. Thus, the first day returns of IPOs derived from on-market overpricing are usually higher than that derived from ex-market underpricing. Ritter (2003) shows that the first day returns in emerging markets are obviously higher than that in mature markets. In particular, the first day return of newest emerging market of China preponderate over any others.

Figure-1 also illustrates the formation of on-market prices of IPOs. For a certain amount of IPO shares, if in a mature market of developed countries, the equilibrium of supply and demand may occur at the intrinsic value where the on-market prices is determined. By contrast, in the emerging market of China, due to the manipulation in bidding IPOs on the listing date, the demand curve shifts from left to right. The equilibrium of supply and demand is far above the intrinsic value of the IPOs. Hence, the on-market IPOs are overpriced. Eventually, the institutional investors escape from the market with rich fruits. The timing of their retreat is up to the market condition. They may sell the shares just in several days after the listing, or in a period of some months or years.

## 5. WHAT LEADS TO THE HIGH FIRST DAY RETURNS OF CHINA'S IPOs?

### 5.1 Government intervention is a cause of the high first day returns of China's IPO

Loughran et al (1994) argue that regulation constraints may affect the offer price setting and the share consummation. Lamont (2004) indicates that legal and institutional restrictions can allow stock to be overpriced. Datar and Mao (1998) suggest that the government's desire to encourage Chinese citizens to participate in the privatization process is an explanation for the severe underpricing in China. Countries with little public participation in stock ownership exhibit high degrees of IPO underpricing. We have indicated that the CSRC and its processors have promulgated rigorous formulations of IPO offer price that have to be adopted by the firms, which leads to little space of ex-market underpricing.

Ritter (2003) concludes that the longer the time that elapses between when an offer price is set and trading begins, the higher is the probability that market conditions will deteriorate and the offering will fail. To reduce the probability of a failed offering, a lower offer price is set and the higher first-day return is obtained. Mok and Hui (1998) suggest that a lengthy time elapse increase the ex ante uncertainty. The potential investors' risk must be compensated by high return resulted from underpricing. We argue that CSRC decide the annual quote of IPOs, IPO offering date and listing date. In particular, CSRC selects the listing dates when the market performs soundly. The longer the time elapse, the more chances that the IPO shares have a high first day return.

Thus, we select the IPO offer price (IPPC) and the time elapse (GAP) included in Model (1) to test the contribution of IPO on-market overpricing made by the governmental intervention. Model (1) also consists of the following variables that we will be examined later on: number of shares (NSHOF) in an offering, turnover ratio (TNOR) of the first trading day, proportion of state-owned and legal person shares to total shares (STLGR), employees' share dummy (EMPD) that is one if a firm has allocated employees' shares and is zero otherwise, and senior managerial share dummy (SMGD) that is one if a firm executive holds shares and is zero otherwise. To avoid the big difference of coefficients due to the diversity of accounting units and possible biased distribution, we apply logarithm on the variables counted in absolute figures.

$$IPRN_i = \alpha_0 + \alpha_1 \ln IPPC_i + \alpha_2 \ln GAP_i + \alpha_3 \ln NSHOF_i + \alpha_4 TNOR_i + \alpha_5 STLGR + \alpha_6 EMPD + \alpha_7 SMGD + \varepsilon_i \quad (1)$$

The regression results are arranged in Panel-A of Table-4. Apparently, the IPO offer prices are negatively related to the first day returns. Chan et al (2003) find a coefficient of -0.253 with t-value of -6.81 in their regression model on China's IPO returns. We get the coefficient of -0.8468 and t-value of -9.46. Both Chen et al and our results show the evidences: the low the IPO offer price, the high the first day returns. However, we question whether or not the low IPO prices are resulted from ex-market underpricing.

Table-4. Regression results for the IPO first day returns (IPRN) using Model (1)

Variable	Panel-A			Panel-B		
	Sample: 1991 – 2003; Observations: 1177			Sample: 1997 – 2003; Observations: 723		
	Coefficient	Standard error	t-value	Coefficient	Standard error	t-value
Intercept	4.0800***	0.7364	5.54	4.3568***	0.5346	8.15
Ln IPPC	-0.8468***	0.0895	-9.46	-0.4278***	0.0753	-5.68
Ln GAP	1.0528***	0.0547	19.26	0.0409	0.0446	0.92
Ln NSHOF	-0.5771***	0.0667	-8.65	-0.4146***	0.0426	-9.73
TNOR	0.4942***	0.1179	4.19	2.0509***	0.2194	9.35
STLGR	0.5640*	0.3358	1.68	0.1577	0.1794	0.88
EMPD	-0.6347***	0.1152	-5.51	-0.0741	0.0552	-1.34
SMGD	0.9308***	0.3392	2.74	0.2145	0.2686	0.80
$\bar{R}^2$	0.3991			0.3445		

Ln IPPC is the logarithm of IPO offer price; Ln GAP is the logarithm of time elapse between IPO date and list date; Ln NSHOF is the logarithm of the number of shares in an offer; TNOR is the turnover ratio on the listing date; STLGR is the ratio of state and legal person shares to total shares; EMPD is a dummy variable that equals 1 if the firm allocated employees' shares and 0 otherwise; SMGD is a dummy variable that equals 1 if the firm allocated senior managerial shares and 0 otherwise.

\*\*\* 1% significance level; \*10% significance level.

Reducing an IPO offer price can be made from two sorts of consideration. One is to underprice the share to let the share cheaper. The other, for example, is to split a share into small units without real price change. If the low IPO offer price originates from ex-market underpricing, the (offer) price earning (P/E) ratio should be low as well. Furthermore, both the IPO offer prices and P/E ratios should be negatively correlated with the first day returns. By contrast, if the low price originates from 'cutting a cake', the numerator and denominator the P/E ratio should reduce at the same proportions and the P/E ratio does not change. The first day returns are generated from IPO on-market overpricing. Thus, we expect a negative relationship between IPO offer prices and the first day returns, while a positive relationship between P/E ratios (PER) of IPO shares and the first returns. We simply build a regression model:  $IPRN_i = \beta_0 + \beta_1 \ln IPPC_i + \beta_2 \ln PER_i + v_i$ .

Our data set only records 986 P/E ratios of the IPO shares. Even though, the regression results validate our ratiocination. The coefficient of  $\ln IPPC$  is -0.7378 with a t-value of -8.62 at 1% significance and the coefficient of  $\ln PER$  is 0.3310 with a t-value of 3.74 at 1% significance as well. Thus, we have evidence that the first day returns of China's IPOs are mainly generated from on-market overpricing.

Our result is consistent with the findings of Mok and Hui (1998) for a short period of 1991 to 1993 and Chan et al (2003) for a period of 1993 to 1998. The time elapses between offering and listing time have significantly positive effect on the first day returns of China's IPOs. If we control other variables constant, one percent of extending time elapse would increase 1.0528 percent of the first day return. The t-value is 19.26 reporting 1% significance.

The long elapse incurs problem that the profitability of a firm may vary a lot from IPO date to listing date. If the profitability increases, the price of the IPO shares on the listing date should soar. If the profitability decreases, the investors still ask the average first day returns of the other IPO shares. Otherwise, the investor may sue the IPO firms and the firms complain the CSRC. From 1994, CSRC officially reduces the time elapse. It can be known from Table-1, the average elapse of IPOs is 413 days in 1991 and 16 days in 2003. Nevertheless, our evidences justify that the government intervention in determining IPO offer prices and the timing of offering and listing has contributed the first day returns.

## 5.2 Speculation stimulates the high first day returns

The first day return at some extent depends on the amount of funds that can be attracted entering into the IPO market. The large the number of IPO shares is tradable in an offer, comparatively, the more the funds demand in on-market overpricing (bidding up) the shares. China's investors are keen in looking for small size of IPOs aimed at bidding the price up with their applicable funds. Thus, it is expected, due to the available funds limitation, that the number of shares in an offer (NSHOF) is negatively related to the first day returns.

Speculation leads to illusively high turnover ratio in the first trading day. Turnover ratio is the proportion of trading volume to the number of IPO shares. Turnover ratio represents the frequency of trading in

approaching the high closing price used in calculating the first day returns. The more the frequency of trading is, the more investors and their funds are attracted into the market. Therefore, the turnover ratios (TNOR) in the first trading day are expected to be positively related to the first day returns.

The test results have showed in Panel-A of Table-4. The  $\ln\text{NSHOF}$  has a coefficient of -0.5771 with a t-value of -8.65, which means that control other variables constant, the IPO size increases 1%, the first return shrinks 0.5771%. Su and Fleisher (1999) provide evidence that the proportion of IPO shares to total shares is significantly negative related to the first day returns. Su and Fleisher's evidence implies a consideration of total shares of the firms, i.e., the relative IPO size.

We argue that the fund required investing in an IPO rests with the absolute IPO size rather than relative IPO size. For example, firm A having both total shares and IPO shares of one million and firm B having both total shares and IPO shares of one billion have the same relative IPO size of 100% but different absolute IPO size of one million and one billion. The speculators prefer the shares of Firm A to firm B, as they can bid up the price of firm A high using less funds. Investing in the IPO shares of firm A used to get more first day returns than investing in the IPO shares of firm B in the speculated China's market. We replace the absolute IPO size in model (1) with the relative IPO size that is the number of IPO shares divided by total number of shares. The coefficient and t-value of the relative IPO size are 0.0105 and 0.98, while the coefficients of other variables and t-values have only some changes without altering signs and decreasing significance levels. Thus, we confirm that the absolute IPO size, representing the demand of the funds and the speculation possibility, has negative effect on the first day returns.

In Panel-A of Table-4, the coefficient of turnover ratio (TNOR) is 0.4942 with a t-value of 4.19, at 1% significance. High frequency of trading drawing the first day return up has been verified. The turnover ratio on the listing date is quite large with an average of 56.1% in the period from 1991 to 2003. More than half of IPO shares have been traded on the listing date. In contrast, the average daily turnover ratio is 0.018% from 1991 to 2003.

High turnover ratio represents not only the hot demand of the IPO shares on the listing date, but also the manipulated China's IPO market. In China, the institutional investors used to syndicate in manipulating the prices of IPO shares. They made signal of high demand by frequently submitting bid and ask orders at timing. During the buying and selling between themselves, they draw the other investors entering the market. As the small size of IPO requires fewer funds to be manipulated, the small size IPOs have larger turnover ratios than that of large size of IPOs. This is shown that the IPO sizes are significantly negative related to the first day returns, while the turnover ratio is significantly positive related to the first day returns. IPO sizes and turnover ratios are negatively correlated.

### **5.3 Ownership structure of IPO firm has impact on the high first day returns**

The stock ownership structure and marketable restriction characterize the China's listing firms. State-owned shares are converted from state-owned assets. Legal person shares are converted from the assets of institutions or enterprises. State and legal person shares represent the assets existing before the IPO offering, which are defined as retention of equity in corporate finance literature. Keasey and Short (1992) state a high percentage of equity retention by original owner may set a signal of high ex-ante uncertainty and low marketability of the stock. The potential risk should be compensated by the high first day return from underpricing the IPO shares. Oppositely, Beatty (1989) conjectures that high equity retention may reflect the faith of the owner in business and future cash flow. Thus, high retention lower uncertainty and moderate the first day returns.

Quite a number of China's IPO firms are constructed with 'high quality' assets that separate from original state-owned companies. The original state-owned companies are appreciated in management, market share and profitability in contrast to other companies in the same industries. They are the core supporting companies by the county's industry policy. Furthermore, the IPO firms dissociated from the state-owned companies, comparatively, are supereminent in profitability and have the priority in funds and material accessibility. The investors are willing to bid the high retention shares. Finally, the retained equities can be sold at will by the firms in developed markets, which increase the supply of the equities and depress the prices. In China, neither state-owned nor legal person shares are tradable. The retained equities cannot be sold by the firms, which restrict the supply of the shares. We presume that the proportion of stated-owned and legal person shares (STLGR) is positively related to the first day returns of IPO shares.

Employees' shares are the shares issued to the staff with subscription priority. Employees' shares have no purchasing costs, such as the payment of commission, expense on subscription forms or interest loss of the deposits required in subscription of shares. The employees' shares issued before 1991 are marketable on the

same listing date as other IPO shares, whereas, the employees' shares issued after 1991 are required to have a three-year waiting time before they turn to be public. The issuance of employees' shares was abolished in 1999. The employees' share holders either participate in the IPO returns on the listing date or enjoy capital gain when trading restriction is expired. Due to the pre-existence of IPO return or capital gain receivers, the foreseen returns are cut off in that the enthusiasm of purchasing IPO shares is depressed. We conjecture that employees' shares affect the first returns negatively.

The senior managerial shares are held by the top executives or venture capitalists. The same as employees' shares, senior managerial shares have no purchasing costs. However, each of executives is eligible to buy or be awarded much more shares than a general employee. Furthermore, the holders of senior managerial shares are the decision makers of the firms, whereas, the holders of employees' shares have no power of influence on the firm decision making. Loughren and Ritter (2003) argue the corruption may occur due to agency problem. The underwriters promise to allocate hot IPO shares to the personal brokerage account of the top executives of issuing firms. An agency problem between the decision makers of the issuing firms and other shareholders contribute a willingness to hire underwriters to leave the money on the 'table'.

Allen and Faulhaber (1989) state that the issuers have power to allocate valuable underpriced shares to bureaucrats in exchange for favour. We believe this is true in China's IPO market and is very popular before 1998. As the state is the largest share owner of most IPO firms, the organization of managerial body and allowances of the executives should be endorsed by the local authorities. Basu and Li (1998) indicate that it is much safer and more legitimate way to bribe bureaucrats using shares in China, because buying shares at face values is viewed as supporting financial reform while receive cash is overtly illegal. Thus, there is coexistence of the senior managerial shares and the bribery of bureaucrats in China. If it is impossible to generate money by ex-market overpricing, on-market overprice is option. We postulate that corruption and bribery are related to the high first day returns of China' IPO shares.

The regression results are reported in Panel-A of Table-4. The coefficient of the proportion of state-owned and legal person shares (STLGR) is 0.5640 at 10% significance level. As discussion early, the China investors interpret the high equity retention of state-owned and legal person shares as the protection of government industry policy and the restriction of shares supply. High retention is a guaranty of profitable IPO shares. Thus, the China's investors usually bid the high retention IPO shares leading to high on-market prices. Our finding is totally different from Mok and Hui (1998). They get a negative coefficient of the percentage of state and legal person shares at 1% significance level. They follow Beatty (1989) argument that high retention lowers uncertainty and requires less return. Our explanation is also opposite to Keasey and Short (1992) who argue that high retention leading to high uncertainty and low marketability of the stock, which requires composition of high returns.

The coefficient of employees' dummy variable (EMPD) is -0.6347 with t-value of -5.51 at 1% significance, strongly supporting for our conjecture that the employees' shares are slack factors of the first day returns. Nominally, the holders of employees' shares are the owners and operators of the firms. The minimum of agency cost would lead to much more attraction of the IPO shares. However, as we indicate before, the holders of employees' shares are pre-existing receivers of IPO returns or capital gains, so that they draw back the other investor passion on the IPO shares.

In contrast to the employees' shares, the dummy variable of senior managerial shares (SMGD) creates a positive coefficient of 0.9308 at 1% significance. The firms that have allocated senior managerial shares have high first day returns. As we indicated early, the prevalent corruption and bribery induce the IPO shares on-market overpricing. On-market overpricing creates opportunity for bribed bureaucrats to collect money from the market.

#### **5.4 The strategy of proceeds maximization and the first day returns of IPOs**

The primary aim of issuance of shares is to get proceeds and then to finance capital. The higher the IPO offer prices, the more proceeds and the less the first day returns. However, an issuer may maximize proceeds by taking a combined consideration of IPOs and seasoned offerings (SEOs). Allen and Faulhaber (1989) and Welch (1989) propose signalling models that the issuers underprice the IPO shares to leave good tasty to the investors in order to recoup from SEOs. Issuers with a larger extent of IPO underpricing are more likely to return the secondary market to offer larger amount of SEOs (Su and Fisher 1999).

From 1991 to 2003, about 53% of China's IPO firms have undertaken at least one times of SEOs within the three years after listing<sup>4</sup>. Thus, we postulate that the high first day returns of IPOs should be partly impacted by the issuers' objective that signals the investment value of firm for recouping the cost from SEOs. We design model (2) that includes the explanation variables of net IPO proceeds per share (PROCR) that is the total net proceeds divided by the number of shares issued, and the dummy variable of SEOs (SEOD) that is 1 if a firm has a SEO in three years after listing or 0 otherwise. The other variables in this model that will be tested later on are: IPO firm size (FSIZE), coefficient of variation of the first day prices, top-three shareholding ratio (TOHR) and prestige underwriter dummy (UNWTD). We expect that the first day returns have a negative relation with net IPO proceeds per share, meanwhile, a positive relation with the action of SEOs.

$$IPRN_i = \varphi_0 + \varphi_1 \ln FSIZE_i + \varphi_2 STDCP_i + \varphi_3 PROCR_i + \varphi_4 SEOD_i + \varphi_5 TOHR_i + \varphi_6 UNWTD_i + \omega_i \quad (2)$$

The regression results are reported in Panel-A of Table-5. The coefficient of SEOD is positively large with a t-value of 2.05, statistically at 5% significance. The IPOs followed by SEOs within subsequent three years usually have high first day returns. Su and Fleisher (1999) follow the spirit of Jegadeesh et al (1993) by employing a logit model to detect the relationship between the SEOs and IPOs. They find that the IPO firms with high returns on first trading day and ten days after listing used to take SEOs. Similarly, our results indicate a positive relation of the first trading day returns and SEOs in a different way. However, Su and Fleisher may count the stock dividend into SEOs, as they state that 'about 91% of the Chinese firms that went public before 1 July 1994 issued seasoned equities before 1 July 1996'. We definitely cannot find this frequency. The coefficient of PROCR is negative, which shows that high proceeds per share leads to low first day returns.

Table-5. Regression analysis on the IPO first day returns (IPRN) using Model (2)

Variable	Panel-A			Panel-B		
	Sample: 1991 – 2003; Observations: 1177			Sample: 1997 – 2003; Observations: : 723		
	Coefficient	Standard error	t-value	Coefficient	Standard error	t-value
Intercept	0.6938***	0.2092	3.32	1.4377***	0.1532	9.38
Ln FSIZE	-0.2580***	0.0597	-4.32	-0.3624***	0.0296	-12.26
STDCP	4.2675***	0.1523	28.02	1.9935***	0.1080	18.46
PROCR	-0.0035	0.0074	-0.48	-0.0312***	0.0084	-3.72
SEOD	0.1767**	0.0862	2.05	0.0445	0.0573	0.78
THOR	-0.0044	0.0028	-1.59	-0.0067***	0.0020	-3.41
UNWTD	-0.1569*	0.0846	-1.86	-0.0096	0.0523	-0.18
$\bar{R}^2$	0.4829			0.3634		

Ln FSIZE is the logarithm of total number shares of a IPO firm; STDCP is the coefficient of variation of the price on listing date, which is calculated using standard deviation of open, close, highest and lowest prices divided by IPO price; PROCR is the net IPO proceeds per share; SEOD is the dummy variable that equals 1 if a firm carried out seasoned offers within three years after listing and 0 otherwise; THOR is the ratio of the shares held by the top three shareholders to the total number of shares of the firm. UNWTD is the prestige underwriter dummy variable that equals to 1 if an underwriter is one of the ten prestige underwriters and 0 otherwise.

\*\*\* 1% significance level; \*\*5% significance level; \*10% significance level.

### 5.5 The influence of risk concerns on the first day returns

The risk and return are substantial concerns in finance literature. It is widely agreeable that high risk should be compensated by high returns. Now we have two variables to detect directly the risk component in the first day returns of China's IPOs. The first variable is the total shares of an IPO firm (FSIZE). Large size of firm represents prestige in operation experience, market share of products and reliability of business. Furthermore, share prices of large size of firms are less volatile than the prices of small size of firms. We

<sup>4</sup>The time horizons from listing to 2003 are less than three years for the IPOs in 2001 to 2003. To avoid shrinking the sample size, we do not cut the sample period into 1991-2000. Instead, we extend the observations of SEOs to 2004. Thus, the time horizons of SEO observations is two years for the IPOs in 2002 and one year for the IPOs in 2003. Because, we apply the dummy variable of SEOs and the SEOs have significantly cut down after 2000, the slight observation mismatching would not introduce estimation bias.

presume that large size of firms improve investors' confidence and require less return compensation. The coefficient is expected negatively related to the first day returns. We apply logarithm of FSIZE to avoid asymmetrical distribution of total number of shares.

The second variable is the coefficient of variation of the first day prices (STDCP) of IPO shares. Due to data availability, the coefficient of variation of the first day prices is calculated by the standard deviation of opening price, highest price, lowest price and closing price divided by IPO price. Explicitly, large coefficient of variation represents high risk requiring high returns. The coefficient of STDCP is expected positively related to the first day returns. Since the firm size is formed before listing date and the coefficient of variation is determined by the prices after listing date, the FSIZE is equipped to be proxy of non-trading time risk, and STDCP is suited to represent the trading time risk.

Our regression results in Panel-A of Table-5 are robust. The coefficient of  $\ln FSIZE$  is -0.2580 with a t-value of -4.32, significant at 1% level. If we control other variables constant, 1% of increase in firm size leads to 0.25% percent decrease in the first returns. The coefficient of STDCP, 4.2675, and t-value, 28.02, are extremely large compared to other variables in model (4). Holding other variables constant, 1% of increase in the coefficient of variation of the first day trading price results in 4.27% increase in the first day returns. Obviously, the concerns on trading time risk and non-trading time risk have a big deal with the first day returns of IPOs.

### 5.6 The effect of prestige underwriters and top shareholders on the first day returns

Michaely and Shaw (1994) find that IPOs underwritten by high-prestige investment bankers tend to have smaller first day returns than that conducted by low-prestige underwriters. Carter et al (1998) state that the better the underwriter's reputation, the smaller the first day return and less severe the long-run underperformance. Wang et al (2003) using underwriter reputation measures developed by Carter and Manaster (1990) and Megginson and Weiss (1991) classify China's underwriters into three levels of prestige. They find the first trading day returns are negatively related to the reputation proxies of underwriters, statistically at 1% significance and higher than the contributions from other variables in their model. According to the times of leading and co-leading underwritings and the number of shares underwritten, we select top of ten prestige underwriters<sup>5</sup> that are generally admitted by China's financial institutions. The value of underwriter dummy variable (UNWTD) is 1 if an underwriter is selected and is 0 otherwise. The coefficient of UNMTD is expected to be negative.

Mello and Parsons (1998) argue that blockholders have incentives to monitor the firms that atomistic shareholders do not have. This monitoring increase firm value due to lessened agency problems between management and shareholders. Aggarwal et al (2002) present evidence that a larger fraction of shares are allocated to institutions when there is a great underpricing. Booth and Chua (1996) propose that, with more shareholders, the market will be greater liquidity, and then a high share price will result. We create a variable of top-three shareholding ratio (TOHR), which is the number of shares held by the top-three shareholders divided by number of total shares, to test the blockholders effect on first day returns. The using top-three shareholding ratio is due to incomplete information of more than top-three shareholders for each firms, and the top-three shareholding ratio is over 50% of total shares on average. It has to be indicated here that the shares held by top-three shareholders include tradable and non-tradable shares, but about 90% is non-tradable shares.

The results in Panel-A of Table-5, show that coefficient of prestige underwriter dummy (UNWTD) is -0.1569 with a t-value of -1.86 at 10% significance. Our evidence is consistent with that of Wang et al (2003), indicating that the prestige underwriters are careful on their reputation by not letting too much money on the 'table'. Actually, those prestige underwriters not only have underwriting capacity, but also have official background that tightly links to central and provincial authorities. They have the power to fetch more underwriting business and setting a price that favour their commission revenues.

The coefficient of top-three shareholding ratio (TOHR) is negative with a t-value of -1.59 slightly under 10% significance, which shows that the more the shares held by the blockholders, the less the first day returns. At least our result is inconsistent with that of Aggarwal et al (2002). Probably the blockholders monitor the firms so that they do not want the spread between IPO offer price and on-market price too large. Alternatively, the shares held by blockholders are mostly non-tradable. Because they cannot realise the capital

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<sup>5</sup> The numbers of Securities Firm and Trust and Investment Company authorized with underwriting licenses vary from year to year. At the end of 2003, there were 199 legal underwriters in China. However, about 62 of them have processed leading or co-leading underwriting business from 1991 to 2003.



gain on listing date, they are reluctant to IPO on-market overpricing. They may understand that over-performance of IPO prices on listing date would be followed by a long term underperformance.

## 6. HOW THE FIRST DAY RETURNS OF CHINA'S IPOs CHANGED?

### 6.1 The first day returns of China's IPOs are going down on average

We have testified that the first day prices of China's IPOs are extremely high in relative to the IPO offer prices, which creates the highest first day returns compared to those on other markets. Also, it is noted that the hot prices are cooling in recent years and the first day returns are expected gradually toward normal (Gu 2003). The studies employing the former years' data (Su and Fleisher, 1999; Mok and Hui 1998) usually present the first day returns larger than that use later years' data (Chan 2003). Table-1 shows that the first day returns jounce down from pre 1991 to 2003.

Explicitly, the reduction of the first day returns results from the following improvements in recent years. First, the investors become knowledgeable to the shares. In the initial period of market establishment, the individual investors are absolute naïve. They used to be misled by the institutional analysts. They may now be able to read the prospects and annual reports meanwhile question the doubtful points. Second, the issuers are required to disclose more information and report important events immediately with more transparency. Information asymmetry, even it is now still a severe problem, has been mitigated. Third, from the theory, the nominal return is the real return plus inflation rate. The inflation rate keeps going down recent years, which has depreciated the expectation to market nominal returns. For example, the consumer price index is 114.7% in 1993, 108.3% in 1996, but it is 100.7% in 2000 and 100.1% in 2003. Fourth, to mitigate the unreasonable high market price, CSRC has implemented a series of provisions regarding subscription methods and underwriting methods. CSRC also releases, at some extent, the space that the firms determine the IPO offer price and reduces the time elapse between IPO date and listing date. It can be known from Table-1, the average time elapse has been regulated from 413 days in 1991 to 16 days in 2003. Finally, the CSRC aligning with other authorities promulgate frequently the ban of market manipulation. Punishments have applied to the securities firms and underwriting companies that severely violated the rules. Some securities firms and underwriting companies have been closed or restructured due to the dismissing of top executives.

The above improvements of China's IPO market have effectively mitigated the on-market overpricing. To explain this, we adapt Figure-1 into Figure-2 in which the dot lines represent the new IPO market balance and the formation of the first return under the circumstance of the improvements. Due to the market improvements and the growth of listing firms, the inauthentic demand of IPO shares is partly lessened so that the demand curve shifts to the left. Meanwhile, the right axis moves to the left connecting to the intersection of demand and supply curves, where a new market price is determined below the original market price. In short run, the IPO price may vibrate around the intrinsic value. In the long run, since the market price drops significantly, the IPO price must go down below the intrinsic value. However, the magnitude of IPO offer price drop is less than that of market price drop. The new first day return is less than the original first day return. Furthermore, the new first day return combines the results of IPO shares ex-market underpricing and on-market overpricing. As China's IPO market becomes mature, the demand curve gradually shifts to the right and finally laps over the demand curve of developed market.

### 6.2 Empirical analysis on the changes of the first day returns of China's IPOs

The evolution of China's IPO market can be divided into three phases according to the efficiency of market management, operation and supervision: the pre-market establishment period before 1991, the initial development period from 1991 to 1996 and the market improvement period from 1997 to 2003 (Ma 2004). We divide the previous sample into the two sub-samples of initial development period and improvement period. In addition to Table-1, Table-6 displays significant changes of the first day returns. The average first day return is 243.03% during 1991-1996 and drop to 132.63% during 1997-2003.

It is not a unique phenomenon that the first day returns of IPOs changed over time on China's stock market. Loughran and Ritter (2003) indicate that the average first day return of IPOs in United States market is 7% in 1980s, doubled to almost 15% during 1990 to 1998 and jumped to 65% during the internet bubble of 1999 to 2000. Loughran and Ritter (2003) investigate the changes of the first returns by examining the changing risk composition hypothesis, the realignment of incentives hypothesis, and the changing issuer objective hypothesis. We follow their spirit to apply the three hypotheses to China's IPOs.

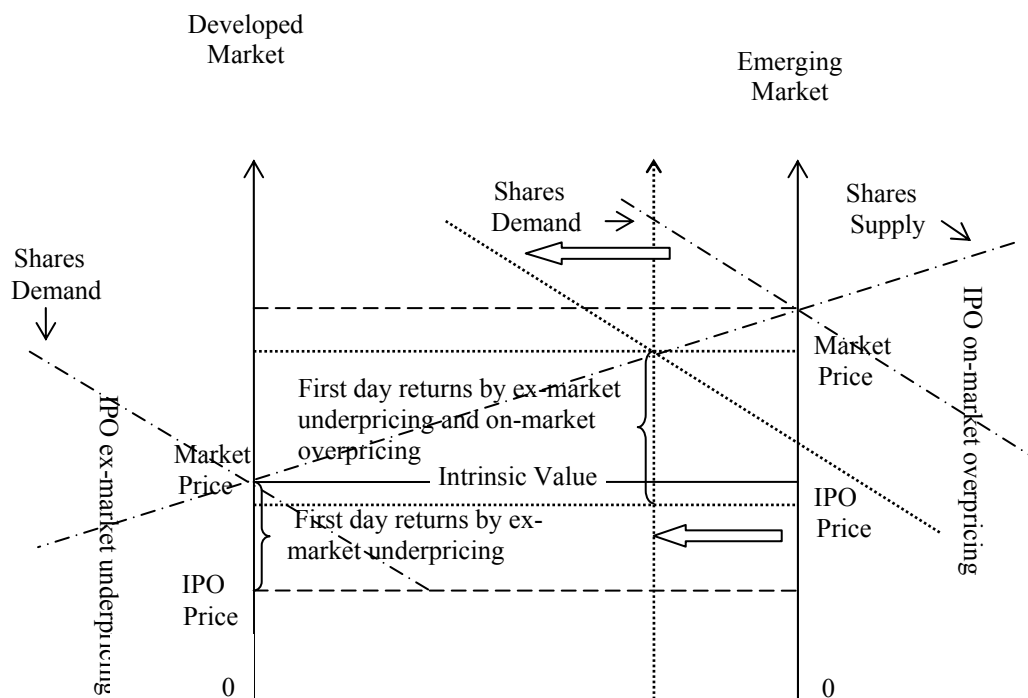


Figure-2. The first day returns China's IPOs have gone down

### 6.2.1 Test of the changing risk composition hypothesis

The changing risk composition hypothesis is based on the assumption that the risky degree of IPO shares determines the first day returns. If the proportion of IPO shares that represent risky stocks increase, the average first day returns should increase, otherwise should decrease (Ritter 1984). Risk can reflect technological uncertainty, valuation uncertainty and policy uncertainty. Loughran and Ritter (2003) find that part of the change of the first day returns increasing is associated with the increasing in valuation uncertainty. Following this logic, we find that part of the decreasing of the first day return of China's IPOs is associated with the decreasing in uncertainty or risk.

There are several variables in Model (1) and Model (2) can capture risk of IPOs. In addition to Table-2, Table-6 shows the some statistics for the full samples and sub-samples. Ritter (2003) and Mok and Hui (1998) state that time elapse (GAP) embodies ex ante uncertainty. Long time elapse between IPO and listing incurs high risk and requires high return. The average time elapse is shorted from 164.78 days during 1991-1996 to 32.09 day during 1997-2003. The firm size of total number of shares (FSIZE) represents the non-trading time risk. Large size of firm restrains the uncertainty in evaluation of the shares. The average size of IPO firms has increased from 173.32 million shares in 1991-1996 to 482.97 million shares in 1997-2003. The coefficient of variation of the first day price (STDCP) and alternatively the coefficient of variation of the first returns (STDCR) reflect the trading time risk. They positively relate to the first day returns. Both of them go down from 26.68% and 139.35% to 15.74% and 64.73% respectively over the two corresponding periods. Obviously, the risk of investing in China's IPO shares has decreased.

To test the risk composition hypothesis we reapply model (1) to the sub-sample of 1997- 2003 to see if shortening time elapse has reduced the first day returns. It can be known from Panel-B of Table-4, that the coefficient of  $\ln \text{GAP}$  is 0.0409 smaller than 1.0528 obtained in the full sample of 1991-2003. The t-value has become insignificant, which demonstrates that the shorted time elapse contribute less first day returns than before. Also, we reapply model (2) to the sub-sample to investigate if reducing non-trading time risk captured by the firm size and trading time risk captured by the coefficient of variation of the first day prices has cut back down the first day returns. In Table-5, the negative coefficient and t-value of  $\ln \text{FSIZE}$  have increased in absolute value for the sub-sample of 1997-2003 compared with those of full sample of 1991-2003, which

illustrates that the increased firm sizes have mitigated non-trading time risk. The positive coefficient of STDCP and t-value have decreased remarkably. Even it is still at 1% significance, the result asserts that the impact of trading time risk has become weaker than before. Accordingly, the portion of the first day return from risk compensation has declined.

Table-6. The changed statistics of China's IPO firms

Statistics and Explanation	1991 – 1996		1997 - 2003		1991 - 2003	
	Obs.	Mean	Obs.	Mean	Obs.	Mean
The first day return of IPOs (%)	454	243.03	723	132.63	1177	175.21
IPO offer price (Yuan)	454	6.60	723	6.01	1177	6.12
Time elapse (days)	454	164.78	723	32.09	1177	83.27
IPO offer price earning ratio (times)	265	14.77	721	17.61	986	16.80
IPO market price earning ratio (times)	265	83.59	721	72.90	986	76.74
Top three shareholding ratio (%)	454	54.94	723	61.45	1177	59.23
Proportion of senior managerial share allocated firms (%)	454	56.66	723	42.32	1177	51.27
Seasoned issues ratio in three years after IPO (%)	454	46.72	723	8.56	1177	26.29
Number of firms taking seasoned issues in three years after IPO (%)	454	300	723	238	1177	538
Net proceeds per IPO (million Yuan)	454	228.51	723	529.86	1177	413.62
Number of shares in an offer (million shares)	454	35.80	723	91.21	1177	69.83
Net proceeds per share (Yuan)	454	6.38	723	5.81	1177	5.92
IPO Firm size (million shares)	454	173.32	723	482.97	1177	363.53
Coefficient of variation of the first day prices (%)	454	26.68	723	15.74	1177	19.96
Coefficient of variation of the first day returns (%)	454	139.35	723	64.72	1177	129.43
Top ten (prestige) underwriters market coverage (%)	454	57.49	723	50.35	1177	53.10
The first day returns underwritten by top ten (prestige) underwriters (%)	261	198.62	364	132.12	625	159.89
The first day returns underwritten by non-top ten (non-prestige) underwriters (%)	193	303.07	359	133.14	552	192.56

Note: The data in the table are average values of either per IPO or per share in the specific period.

### 6.2.2 Test of the realignment of incentive hypothesis

The realignment of incentive hypothesis is introduced by Ljungqvist and Wilhelm (2003). They argue that the increase in the frequency and size of chief executive officer's 'friends and family' shares allocation lowers the incentive of issuing firm decision makers to bargain for a higher offer price. The managements of issuing firms have increasingly acquiesced in leaving money on the table. We have got evidence in Section 5.3 that senior managerial shares do have the positive effect on the first day returns on China's markets. Oppositely to Ljungqvist and Wilhelm observation on U.S market, the proportion of the IPO firms allocated senior managerial shares to the total IPO firms in China has gone down. Table-6 shows the average proportion of the firms allocated senior managerial shares to total firms is 55.66% in the period of 1991-1996 and 42.32% in the period of 1997-2003. However, the Ljungqvist and Wilhelm (2003) argument regarding the positive relation between senior managerial shares and the first day returns is verified. In Panel-B of Table-4, the coefficient of senior manager share dummy (SMGD) is 0.2686 for the period of 1997-2003, quite smaller than 0.9308 for full sample period of 1991-2003 and becoming insignificant. The decreasing 'frequency and size' of senior managerial shares' allocation have lowered the first day returns of China's IPOs.

As we have discussed previously, the blockholders represented by top-three shareholders are legal entities rather than personal shareholders. The shares held by the top-three shareholders are substantially non-tradable shares. Thus, the incentive of the top-three shareholders differs from that of senior managerial shares holders.

The top-three shareholding ratio has negative effect on the first day returns. As the average top-three shareholding ratio increases from 54.94% in 1991-1996 to 61.45% in 1997-2003 reported in Table-6, the negative effect on the first day returns become large. Table-4 shows that the coefficient of top-three shareholding ratio (THOR) is -0.0044 with an insignificant t-value of -1.59 for the full sample of 1991-2003, but it is -0.0067 with a t-value of -3.41 at 1% significance in 1997-2003.

### 6.2.3 Test of the changing issuer objective function hypothesis

The changing issuer objective function hypothesis states that the issuing firms change their willingness to accept underpricing, holding the level of managerial ownership and other characteristics constant. Loughran and Ritter (2003) argue that the first reason is that issuers place more emphasis on hiring a lead underwriter with a highly ranked analyst to cover the firm. They become less concern about avoiding underwriters with a reputation of heavy underpricing. The second reason is that underwriters allure the executives of issuing firms by setting up personal brokerage accounts and allocating hot IPO shares to those accounts. The side payments received by the executive of issuing firms create an incentive to seek, rather than avoid underwriters with a reputation of excessive underpricing. Both the reasons state the objectives of seeking for high first day returns by underpricing.

The changing issuer objective function hypothesis represents the tendency of hiring underwriters with reputation of heavy underpricing increasing the first day returns. From this logic, hiring the underwriter without reputation of heavy underpricing decreases the first day returns. Our evidence in Section 5.6 has shown that the China's prestige underwriters used to underwrite the IPOs with less first day returns. This also can be known from Table-6, in particular for the period of 1991-1996 when the first day returns are 198.62% underwritten by prestige underwriters and 303.07% underwritten by non-prestige underwriters. We suppose that the issuers want leaving more money on the 'table' by hiring non-prestige underwriters, as we see the prestige underwriter coverage, in Table-6, is down from 57.49% in 1991-1996 to 50.35% in 1997-2003. However, the first day returns by prestige and non-prestige underwriters are 132.12% and 133.14%, approximately the same during 1997-2003. The IPO shares actually are not underpriced more than before. The regression results in Table-6 also shows that since the first day returns of IPOs underwritten by the two types of underwrites are similar during 1997-2003, the negative impact from the prestige underwriters on the first day returns decrease.

Secondly, we argue that the side payment is effectively prohibited in some extent in recent years, the purpose of issuers has changed to seeking for more proceeds and less first day returns. We use the proportion of firms allocated senior managerial shares as proxy of side payment. This proportion dropped from 56.66% during 1991-1996 to 42.32% during 1997 to 2003. Due to the side payment is lessened, the incentive of having more proceeds grows. Look at Table-6, the average IPO offer price and net proceeds per share are 6.60 yuan and 6.38 yuan during 1991-1996, and 6.01 yuan and 5.81 yuan during 1997-2003. However, this does not mean that the issuers leave more money on the 'table', as the offer price earning ratio (P/E) increase from 14.77 to 16.71 correspondingly<sup>6</sup>. The reduction of the 'cake' is made smaller than the reduction of the prices. In reality, the IPO offer prices and proceeds per share rise. The coefficient of net proceeds per share (PROCR) in Table-5 is -0.0312 with a t-value of -3.72 at 1% significance level for the period of 1997-2003, but is -0.0035 with a t-value of -0.48 for the full sample period of 1991-2003, which indicates the increasing incentive of requesting more proceeds and the effect of banning side payment.

Finally, in pretending the changing issuer objective hypothesis, we argue that the issuers of China's IPOs increase the requesting proceeds from IPOs and decrease the requesting proceeds from SEOs. In Section 5.4 we have shown that the signal effect exists in China's IPO market in that the issuers show the value IPO shares for further SEOs. However, the issuers have changed their objective in recent years. They place more emphasis on collecting proceeds from IPOs rather than SEOs. It can be known from Table-6, about 300 out of 454 firms of IPOs in the period of 1991-1996 carried out SEOs in three years after listing. The shares issued in SEOs are 46.72% of the shares issued in IPOs on average. Only about 238 out of 723 firms of IPOs in the period of 1997-2003 carry out SEOs in three years after listing. The shares in SEOs are merely 8.56% of the shares in IPOs on average.

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<sup>6</sup> We divide the average IPO price by the average P/E ratio to get the average earning per share ( $6.60/14.77=$ ) 0.4469 for the sub-sample of 1991-1996 and ( $6.01/16.71=$ ) 0.3597 for the sub-sample of 1997-2003. The average IPO price in 1991-1996 is ( $6.60/6.01=$ ) 1.098 times of that in 1997-2003, meanwhile, the average earning per share in 1991-1996 is ( $0.4469/0.3597=$ ) 1.242 times of that in 1997-2003. Thus, the real IPO prices cannot be admitted decrease.

The objective of taking less consideration in SEOs is approached by two ways. One is to lift the IPO offer prices, which has been verified just previously. The other is to increase the number of shares issued in the IPOs for gathering more proceeds, meanwhile, reluctant to recoup from SEOs. Table-6 reports, in comparison of two periods of 1991-1996 and 1997-2003, both the number of shares offered in IPOs and the average net proceeds per IPO have remarkably grown by more than one fold. The coefficient of SEOs dummy (SEOD) for the period of 1997-2003, reported in Panel-B of Table-5, is 0.0445 with a t-value of 0.78 insignificantly at conventional level. This shows that, due to the objective change, the SEOs are less supported by underpricing IPOs in recent years.

Overall, due to the changes of risk composition, realignment of incentives and issuer objective hypothesis, the market prices of IPOs on the listing day decline. Table-6 shows that IPO market price earning ratio is 83.59 in 1991-1996 on average and 72.90 in 1997-2003 on average. The first day return is 243.03% and 132.63% in the corresponding periods. The first day returns of China's IPOs are substantially going down.

## 7. CONCLUSION

The average first day return of China's IPOs in the period from 1991 to 2003 is 175.21%, extremely larger than those in other markets. In IPO literature, the first day returns and underpricing are used as synonyms. The high first day returns are oriented from the issuers cooperated with underwriters underpricing their IPO shares that the offer prices are set far below the first market closing prices. We divide the IPO underpricing into ex-market underpricing and on-market overpricing. The ex-market underpricing supposes that an IPO offer price is placed under the intrinsic value of the share and market price represents the intrinsic value. The on-market overpricing supposes that the IPO offer price is similar to the intrinsic value of the share and the first market closing price is higher than the offer price. Our analysis indicates the extremely high first day returns of China's IPOs are mainly generated from on-market overpricing in most of the years.

We apply two models to detect the causes of the high first day returns of China's IPOs. We find, first, that the government intervention in determining the IPO offer price and timing the offering and listing date add the first day returns. The government intervention is captured by the IPO offer price and the time elapse between offering and listing. The IPO offer price is negatively and time elapse is positively related to the first day return.

Second, market speculation stimulates to the high first day returns. Speculators using their useable funds prefer bidding up the price of IPOs that have small number of tradable shares. The less the shares are issued in an IPO, the more severe the speculation is on the listing day, leading to high turnover ratios accompanied by high first day returns.

Third, the special ownership structure of the IPO firm has impact on the first day returns. State and legal person shares represent the issuers' retention of ownership and restriction of tradable shares supply, positively related to the first day returns. Employees' shares represent the existing market gain receivers depressing the first day returns. Senior managerial shares have positive relation to the first day returns that can be explained by bribery.

Fourth, companies maximize proceeds by a combined consideration on both IPOs and SEOs. The companies processed SEOs in the three years after IPOs usually have high first day returns of IPOs. The net IPO proceeds per share are negatively related to the first day returns of IPOs. Signalling effect has been detected on China's IPO market.

Fifth, risk concerns influence remarkably on the first day returns. The large size of IPO firms represent reliability and low risk requiring less return compensation. The volatility of the first trading day prices is a proxy of on-market risk of IPOs. We find that high volatility of IPO prices on the first day is correlated with high first day returns.

Finally, we find that the IPOs underwritten by prestige underwriters have low first day returns. The prestige underwriters in China have official background. Also, the ratio of the shares held by the top of three shareholders is negatively related to the first day returns. The top of three shareholders are entities rather than individuals, holding mostly non-tradable shares.

Nevertheless, the extremely high first day returns of China's IPOs have substantially dropped down in recent years. This change explicitly resulted from lessening government intervention and mitigating market speculation. We indicate that the first day returns are on the way from generating by on-market overpricing to generating by ex-market underpricing. By running the models with a sub-sample of recent years, we test the risk composition hypothesis, realignment of incentive hypothesis and changing issuer objective function hypothesis.

Firstly, we find that the risk components from time elapse and on-market price volatility have significantly decreased. The contribution from risk concerns to the first day returns is going down. Next, the ratio of the firms allocated senior managerial shares is turning to be smaller and the ratio of the shares held by top three shareholders is turning to be larger. Both of them have mitigated the first day returns. Furthermore, The IPO firms have adjusted their intention to receive more proceeds from IPOs rather than from SEOs. This can be seen from the increase in IPO proceeds and decrease in undertaking SEOs.

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